



Serial No. 10/024,622
Amendment dated August 30, 2006
Reply to Office Action of June 6, 2006

Docket No. SCH-0008

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-3. (Canceled)

4. (Previously Presented) A method for recovering abnormal control cells in an asynchronous transfer mode (ATM) exchange subscriber unit, comprising:

transmitting a signal cell or control cell and then sequentially checking a plurality of reception first-in first-out memories (FIFOs) to determine whether a new cell has arrived;
recognizing that the current cell is abnormal after said transmitting is performed, if there is no start of cell (SOC) signal in an initial byte of a current cell under the condition that a cell synchronization loss signal is present in the current cell, or if the SOC signal is detected during transfer of the current cell; and

discarding the current cell and fully emptying an associated FIFO to recover cell synchronization if the cell synchronization loss signal is abnormal during said recognizing,

wherein said discarding includes:

setting to 0 all bytes to be transmitted under the condition that said synchronization loss signal is not set if the current cell in transmission is abnormal; and

setting no transmission synchronous signal and then returning to said transmitting.

5. (Previously Presented) The method as set forth in claim 4, wherein said transmitting includes:

first determining whether there is a cell to be transmitted;
transmitting the cell and then returning to said determining if it is determined that there is the cell to be transmitted, ;
second determining whether there is a cell to be received if it is determined that there is no cell to be transmitted;
returning to said first determining if it is determined that there is no cell to be received; and
receiving the cell and then returning to said first determining if it is determined at said second determining that there is the cell to be received.,

6. (Previously Presented) The method as set forth in claim 5, wherein said first determining includes:

determining that the cell synchronization is normal, if said cell synchronization loss signal has been set; and
determining that there is the cell to be transmitted, if a transmission enable signal is detected.

7. (Previously Presented) The method as set forth in claim 5, wherein said transmitting includes:

determining whether a transmission synchronous signal is detected from an initial byte of the cell to be transmitted;

transmitting the initial byte if it is determined that the transmission synchronous signal is detected from the initial byte; and

determining whether the transmission synchronous signal is detected from the cell to be transmitted, in order from a subsequent byte to a last byte, transmitting each of the bytes whenever the transmission synchronous signal is detected and then returning to said first determining whether there is a cell to be transmitted.

8. (Original) The method as set forth in claim 7, wherein the cell to be transmitted has 64 bytes.

9. (Previously Presented) The method as set forth in claim 5, wherein said receiving the cell includes:

determining whether a reception synchronous signal is detected from an initial byte of the cell to be received;

receiving the initial byte if it is determined that the reception synchronous signal is detected from the initial byte; and

determining whether the reception synchronous signal is detected from the cell to

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be received, in order from a subsequent byte to a last byte, receiving each of the bytes whenever the reception synchronous signal is detected and then returning to said first determining.

10. (Original) The method as set forth in claim 9, wherein the cell to be received has 64 bytes.

11. (Previously Presented) The method as set forth in claim 4, wherein the current cell at said recognizing is in any one of transmission or reception.

12. (Previously Presented) The method as set forth in claim 4, wherein the current cell at said discarding is in any one of transmission or reception.

13. (Canceled)

14. (Previously Presented) The method as set forth in claim 12, wherein said discarding includes:

setting to 0 all bytes to be received under the condition that said synchronization loss signal is not set if the cell in reception is abnormal; and

setting no reception synchronous signal, reading data from an associated one of said reception FIFOs until it is fully emptied, and then returning to said transmitting.

15. (Currently Amended) An apparatus for recovering abnormal control cells in an asynchronous transfer mode (ATM) exchange subscriber unit, comprising:

a controller for monitoring and controlling the entire operation of the subscriber unit, and discarding abnormal cells and recovering cell synchronization on the basis of a start of cell (SOC) signal;

a first-in first-out memory (FIFO) manager connected to said controller for transmitting and receiving cells to/from said controller;

reception FIFO means for temporarily storing a cell received from a different ATM exchange and transmitting the stored cell to said FIFO manager; and

transmission FIFO means for temporarily storing a cell transmitted from said FIFO manager and transmitting the stored cell externally,
externally,

wherein said discarding includes:

setting to 0 all bytes to be transmitted under the condition that a synchronization loss signal is not set if a current cell in transmission is abnormal; and

setting no transmission synchronous signal and then returning to said transmitting the stored cell externally.

16. (Original) The apparatus as set forth in claim 15, wherein said reception FIFO means includes four FIFOs for inputting and outputting cells.

17. (Original) The apparatus as set forth in claim 15, wherein said transmission FIFO

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means includes four FIFOs for inputting and outputting cells.